

SOFT-START CHARGE PUMP CIRCUIT

Abstract

A charge pump is driven by at least one clock signal, for converting a supply voltage source into a pumping voltage. The pumping voltage is a function of an amplitude of the at least one clock signal such that an absolute value of the pumping voltage is larger when the amplitude of the at least one clock signal is larger. The amplitude of the at least one clock signal is so modulated as to gradually change from an activation value during an amplitude modulation period. The amplitude modulation period lasts longer than a period of the at least one clock signal by one or more metric orders. The charge pump is activated by the at least one clock signal with the amplitude of the activation value. Thereafter, the charge pump is controlled in such a way that the absolute value of the pumping voltage gradually changes along with the modulation of the amplitude of the at least one clock signal.